

**Commonwealth of Kentucky**  
**Division for Air Quality**  
**PERMIT APPLICATION SUMMARY FORM**  
Completed by: Ron Schneider

GENERAL INFORMATION:

Name:	Interplastic Manufacturing Company
Address:	3535 Latonia Avenue Fort Wright, KY 41015
Date application received:	February 7, 2008
SIC/Source description:	2821, Plastic Materials, Synthetic Resins, and Nonvulcanizable Elastomers
Source ID #:	21-117-00086
Source A.I. #:	2466
Activity #:	APE20080001
Permit number:	F-05-027 Revision 2

APPLICATION TYPE/PERMIT ACTIVITY:

<input type="checkbox"/> Initial issuance	<input type="checkbox"/> General permit
<input checked="" type="checkbox"/> Permit modification	<input checked="" type="checkbox"/> Conditional major
__Administrative	<input type="checkbox"/> Title V
X__Minor	<input type="checkbox"/> Synthetic minor
__Significant	<input type="checkbox"/> Operating
<input type="checkbox"/> Permit renewal	<input type="checkbox"/> Construction/operating

COMPLIANCE SUMMARY:

<input type="checkbox"/> Source is out of compliance	<input type="checkbox"/> Compliance schedule included
<input checked="" type="checkbox"/> Compliance certification signed	

APPLICABLE REQUIREMENTS LIST:

<input type="checkbox"/> NSR	<input checked="" type="checkbox"/> NSPS	<input checked="" type="checkbox"/> SIP
<input type="checkbox"/> PSD	<input type="checkbox"/> NESHAPS	<input type="checkbox"/> Other
<input type="checkbox"/> Netted out of PSD/NSR	<input type="checkbox"/> Not major modification per 401 KAR 51:001, 1(116)(b)	

MISCELLANEOUS:

- ☐ Acid rain source
- ☐ Source subject to 112(r)
- ☒ Source applied for federally enforceable emissions cap
- ☐ Source provided terms for alternative operating scenarios
- ☐ Source subject to a MACT standard
- ☐ Source requested case-by-case 112(g) or (j) determination
- ☐ Application proposes new control technology
- ☐ Certified by responsible official
- ☐ Diagrams or drawings included
- ☐ Confidential business information (CBI) submitted in application
- ☐ Pollution Prevention Measures
- ☒ Area is non-attainment (list pollutants): VOC and NOx (8-hr Ozone), PM2.5

### EMISSIONS SUMMARY:

Pollutant	Actual (tpy) (From 2005 Inventory)	Title V Potential (tpy)
PM/PM <sub>10</sub>	0.406	10.553
SO <sub>2</sub>	0.041	0.136
NO <sub>x</sub>	6.841	22.625
CO	5.747	19.005
VOC	2.476	15.006
LEAD	0.000	0.000
<u>Single HAPs &gt; 10 tpy</u> None.		
<u>Source wide HAPs &gt; 25 tpy</u> None.		

### SOURCE DESCRIPTION:

Interplastic Manufacturing Company (Interplastic) operates a synthetic resin manufacturing facility in Kenton County, Kentucky. Raw materials, either charged manually or from various raw material storage tanks (SEU 8, 13, 14, 15, 16, 20, 21, 22, 23, 24, 27, 28, 36, 40, 41, and 43), are processed in three reactor vessels, or Process Kettles (PK#1 (SEU 57), PK#2 (SEU 58), and PK#3 (SEU 101)), to produce an alkyd. The reactions can take place at both atmospheric and/or elevated pressures, and can take from 12 to 48 hours. The reactors can be heated with hot oil from any one of three sources (SEU 10, 33, and 102, as required), and are typically supplied with inert gas from the Inert Gas Generator (SEU 109). While still hot, the alkyd is transferred into one of six Thinning Kettles (TK#1 or #2 for PK#1, TK#3 or #4 for PK#2, and TK#5 or #6 for PK#3), and thinned with styrene (one product is thinned with acetone, but acetone is neither VOC or HAP). Once thinned, the product is considered a "base resin" which is either sold "as is" or further blended to customer specifications. Approximately 30% of the resin is sold "as is," while the remaining 70% is either stored on site in Resin Storage Tanks (SEU 4, 5, 19, 45, 106, and 107) or further blended in one of numerous blend tanks (SEU 11, 12, 17, 18, 29, 30, 34, 35, 37, 44, 48, 55, 104, 105, 110, 111, 112, 113, 115, or 116). Finally, the resin is packaged in one of two tank truck loading areas (SEU 39 or 119), one of two Automatic Drumming Stations (SEU 117 or 118), or one of three dual-purpose small loading areas (SEU 44, 115, or 116).

### MINOR PERMIT REVISION 2: REMOVAL OF LDAR REQUIREMENTS

After one year of quarterly leak detection and repair (LDAR) testing as required by Permit F-05-027 Revision 1, Interplastic documented negligible effect on emissions as well as showing that the actual measured emissions were below those predicted from the EPA emission factors. Interplastic has applied for a permit revision to remove quarterly LDAR requirements from their permit and to replace them with visual, olfactory, and audible inspections.

### **EMISSIONS AND OPERATING CAPS DESCRIPTIONS:**

Interplastic requested numerous voluntary operating and source-wide emission limits to keep emissions under major source thresholds and preclude the applicability of 401 KAR 52:020, *Title V permits*. See Section B of the permit for operating and emission limits pertaining to the individual emission points, and Section D of the permit for the requested source-wide emission limits.

401 KAR 50:012, *General application*, applies to the emissions of VOC's from the facility. As a result, Reasonably Available Control Technology (RACT) is required to reduce facility-wide uncontrolled emissions of VOC by at least 90%. See Section D of the permit, and the Statement of Basis for more information on the RACT determination.

### **OPERATIONAL FLEXIBILITY:**

Interplastic operates two thermal oxidizers – one primary (SEU 103) and one secondary (SEU 26). During normal operations, emissions are routed to the primary oxidizer almost 95% of the time (typically 49 out of 52 weeks of the year). Since the primary oxidizer has a better destruction efficiency than the secondary oxidizer, the emissions depicted above represent a worst-case hypothetical situation in that the secondary oxidizer's destruction efficiency was applied to all annual PTE calculations. Since these hypothetical worst-case emissions still show a reasonable expectation of compliance with both the Conditional Major and RACT limits, the operating limitations in the permit provide for some flexibility in that they do not specify which oxidizer to use at any given time.

Interplastic's application identifies liquefied propane gas (LPG) as a secondary fuel for all of their combustion equipment in case of periods of a natural gas utility curtailment. Since combustion of LPG in place of natural gas will still result in a very reasonable expectation of compliance with emission limits from 401 KAR 59:015 and with Conditional Major source-wide limits, the indirect heat exchanger operating limits allow either natural gas or LPG combustion at any time.